TECHNICAL WORK MAY NOT BEGIN PRIOR TO CO APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	JOB ORDER NUMBER	APPROP. FY
	NAS5- TASK NO. AMENDMENT		
QSS Group, Inc.	99124 **370**	562-632-82-02-89	00

TASK TITLE: (NTE 80 characters; include Project name)

Radiation Effects Testing and Analysis Services

APPROVALS: (Type or print name and sign)

	DATE	ORG CODE	MAIL CODE	PHONE
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR) Darryl D. Lakins for Kenneth A. LaBel	9/15/00	562	562.1	301-286-9936
BRANCH HEAD Darryl D. Lakins Darryl Lakins	9/15/00	CODE 562		PHONE 301-286-6382
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR) Robert S. Lebair, Jr.	9/20/00	CODE 560		PHONE 301-286-6588

FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE? (IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)	CONTRACTING OFFICER'S QUALITY REP.	DESIGNATED FAM:
(X) NO ( ) YES		

The contractor shall identify and explain the reason for any deviations, exceptions, or conditional assumptions taken with respect to this Task Order or to any of the technical requirements of the Task Order Statement of Work and related specifications. The contractor shall complete and submit the required Reps and Certs.

(To be completed by Contracting Officer)
C.O. Requested Quote on:
Date: SEP 20 2000

Contractor will develop specification or statement of work under this task for a future procu (X) NO ( ) YES

Flight hardware will be shipped to GSFC for testing prior to final ( ) NO ( ) YES (X) N/A

Government Furnished Property/Faciliti ( ) NO (X) YES -- SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)

Onsite Performance: ( ) NO (X) YES If yes: (X) TOTAL ( ) PARTIAL
If partial, indicate onsite work in SOW by asterisk (*)

Surveillance Plan Attached: (X) NO ( ) YES

Highlighted Contract Clauses: *(to be completed by Contracting Officer)*

Per Clause H.14, Task Ordering Procedure, subparagraph (f), the effective date of this task order shall be 10/1/00.

INCENTIVE FEE STRUCTUR (check one)
(See Contract NAS5-99124, Attachment K, Incentive Fee Plan)

	___ No. 1	___ No. 2	___ No. 3	___ No. 4	_X_ No. 5
Cost	10%	50%	25%	25%	20%
Schedule	15%	25%	25%	50%	40%
Technical	75%	25%	50%	25%	40%

(To be completed by Contracting Officer)

The target cost of this task order is $ 1,360,207 .
The target fee of this task order is $ 41,836 .
The total target cost and target fee of this task order as contemplated by the Incentive Fee clause of this contract is $ 1,402,043 .

The maximum fee is $ 61,145 .
The minimum fee is $0.

AUTHORIZED SIGNATURE:

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

Therese J. Becker — 12/8/00 — Therese J. Becker
SIGNATURE OF CONTRACTING OFFICER — DATE — TYPED NAME OF CONTRACTING OFFICER

CONTRACTOR'S ACCEPTANCE:

AUTHORIZED SIGNATURE — DATE

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Applicable paragraphs from contract Statement of Work: Function 2D8

STATEMENT OF WORK: (Continue on blank paper if additional space is required)

(This is a follow-on to Task 126 under this contract; uninterrupted transition is required.)

The requirement is to provide services to the Radiation Effects and Analysis (REA) Group of the Component Technologies and Radiation Effects Branch (Code 562). The radiation effects of concern are total ionizing dose (TID), displacement damage (DD), and single event effects (SEE).

The contractor shall provide services to the REA in the design and development of radiation test systems and radiation analyses as follows:

1. Design and development of test plans as well as test suite hardware and software compatible with existing VXI test equipment or with standalone capabilities for radiation effects testing in support of NASA flight projects and research efforts. Research efforts include NASA's ERC Project and DTRA's RTM Program.
2. Performance of radiation effects tests. This includes detailed abilities to interface with facility equipment (hardware and software).
3. Provide services for determining radiation effects test levels (TID, SEE, or Displacement Damage) for tests as well as beam control capabilities at selected offsite facilities.
4. Reduce raw radiation test data and determine mission-specific and generic performance analyses of radiation effects test results. Develop test and application reports.
5. Determine mission-specific system-level impacts of radiation test results and make recommendations to designers.
6. Screen parts lists for radiation effects. Determine applicability to mission and make recommendations for alternatives, mitigation techniques, or for testing.
7. Develop test plans and test methods for research efforts in the area of emerging technologies such as photonics or for radiation issues such as damage or transient experiments.
8. Evaluate mission radiation risk assessment.
9. Develop technical assessments for radiation research monthly and quarterly reports.
10. Design and develop flight radiation experiments and provide services to support data analysis.

GFE is PCs and software tools for code development and website maintenance.
Performance of radiation tests may take place onsite (i.e., GSFC's Co-60 source) or offsite (i.e., Brookhaven National Labs or University of California at Davis). Radiation safety certification is required.

PERFORMANCE SPECIFICATIONS:

Reports and Documents: Technical performance will be based on thoroughness and completeness of written reports. Acceptable performance is that the ATR is satisfied that the material reflects the proper level of technical expertise and meets the objectives of the activity.
Analyses shall provide experiment/engineering background and full analysis of events observed during radiation experiments. Analyses for mission issues shall be in accordance with mission needs or as required by sponsor.
Test suite deliverables shall include documented and functioning test setups. Documentation shall be in accordance with industry standard practice.
Technical Progress Report: Acceptable performance is that the ATR is satisfied that he is being kept informed of the status of work performed and of issues requiring his attention.
Management: Performance will be measured against the following metrics: (1) accomplishment of objectives; (2) clear, incremental progress; (3) responsiveness to issues; (4) efficient and appropriate staffing; and (5) coordination with and good working relationship with ATR and other related contractor efforts, if applicable.

APPLICABLE DOCUMENTS:
None.

TASK END DATE: 9/30/01

MILESTONES/DELIVERABLES AND DATES:

See Page 3.

PERFORMANCE STANDARDS:

Schedule: On-time delivery/completion of the deliverables/milestones
Technical: ATR's acceptance of the above

FINAL DELIVERY DESTINATION (NAME, BLDG, ROOM):
Kenneth A. LaBel, building 11, room E208B

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MILESTONES/DELIVERABLES AND DATES:

Analysis of radiation experiments: 2 weeks following test completion
Radiation experiment setup development is from 2-6 months prior to test date.
Off-site radiation tests:

	Test	*Site*	*Dates*
(1)	Proton experiments on emerging technology, linear, COTS, and optical devices	UCD, IUCF, TRIUMF	11/30/00, 1/30/01, 3/30/01, 6/30/01, 9/30/01
(2)	Co-60 experiments on step-wise irradiation and linears	GSFC	1/30/01, 5/30/01
(3)	Heavy ion experiments on emerging technology, linear, COTS, and optical devices	BNL, TAMU, UCB	11/30/00, 1/30/01, 4/30/01, 8/30/01, 9/30/01
(4)	Neutron experiments on linear devices	ARL	1/30/01
(5)	Support planned shakeout of MSU NSCL facility	MSU NSCL	8/30/01

Reports:	(1) Technical inputs to quarterly reports for Defense Threat Reduction Agency and NASA Electronic Parts and Packaging Program/ ERC Project.	Quarterly
	(2) Proton test lessons learned document	8/30/01
	(3) Draft Test Methods for Optocoupler Testing	6/30/01
	(4) Draft Linear Test Methods and Application Guideline	7/30/01
	(5) Draft Optical Link Performance Model	7/30/01
	(6) Radiation performance prediction analysis for STRV-1d Experiments; Initial correlation to flight	12/15/01, 3/15/01, 6/15/01
	(7) Technical Progress Report	Monthly, 15th of the month
Additional Hardware:	(1) RH21020 tester fully integrated with software - Ver 2	2/28/01
	(2) Fully integrated PXI Test System	11/30/00
Test Plans:	(1) ISSA Fluids and Combustion Facility - Phase 2	12/30/00
	(2) Coordinate optical component test planning with industry and government partners	11/15/00
	(4) Provide plan for investigation into SEL reliability	11/15/00
	(5) Provide plan for developing proton test documents	11/15/00
	(6) Radiation evaluation of advanced sensor technologies (NGST)	10/30/00
Proposals:	(1) Provide technical inputs to REA on ERC and CETDP proposals	10/15/00, 3/15/01
Analyses:	(1) Provide weekly support to GLAS/Icesat/GPS/NGST/NEXUS/SWIFT	Weekly
	(2) Beta test new spacecraft charging software	6/30/01
	(3) Provide weekly to monthly support to ESSP missions, PI missions	
Tools:	(1) Final model for f/o radiation performance tool (SEE)	5/1/01
	(2) User f/o tool demonstration (SEE)	9/1/01
Miscellaneous:	(1) Provide REA technical and logistic services at IEEE NSREC	7/30/01
	(2) Provide REA technical and logistic services at IEEE Aerospace	3/30/01
	(3) Provide REA technical and logistic services at RADECS	9/30/01
	(3) Provide REA technical and logistic services for ERC presentations and conferences	11/15/00, 3/15/01, 5/30/01, 9/15/01
	(4) Provide technical services for ERC research tasks	11/15/00, 3/15/01, 7/15/01